

MEEEC

MOJAVE ENVIRONMENTAL EDUCATION CONSORTIUM

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Issue 1



Teachers Explore Environmental Education in Big Bear

Five specially selected teachers took part in MEEEC's 2015 EnviRetreat which took place on November 18th and 19th. The two-day event introduced the educators to a host of environmentally relevant educational sites in the City of Big Bear Lake.

The annual EnviRetreat event is designed to promote quality EE learning in a "place-based" environment, with this year's teachers visiting numerous sites throughout the two-days. The following teachers were selected by MEEEC to participate in the event: Sue Christian, Brentwood Elementary, Victorville; Terri Eddy, Maple Elementary, Hesperia; Sherri Harris, Daisy Gibson School, Palmdale; Valerie Kimmel-Oliva, Desert Knolls Elementary, Apple Valley and Joshua Warren, Knight Preparatory Academy, Palmdale. Each participating teacher also received a book containing detailed information and standards-based curriculum about the points of interest they would visit during the retreat.

The educators started their first day at the Mojave Desert Air Quality Management District in Victorville, before hitting the road. Their first stop along the way to Big Bear Lake included a tour of the Mitsubishi Cement Corporation Site in Lucerne Valley. Environmental Manager Dave Rib guided the teachers on a tour of the cement plant where they learned about the process of making cement from start to finish including a visit to a reclamation site on the property to view native plant restoration efforts the organization is undertaking.

From here, the teachers made their way towards their destination of Big Bear Lake. There, the teachers learned about the efforts of the local water agency to educate the public on water conservation. Big Bear Lake Department of Water also allowed the group to visit an active well that is used in providing the mountain resort community with its water supply.

Later in the day, the teachers rolled up their sleeves and got their hands dirty as they worked alongside U.S. Forest Service Biology Technician



EnviRetreat teachers break for a photo op with Environmental Manager Dave Rib (center) during their tour of the Mitsubishi Cement Plant. (L-R) Valerie Kimmel-Oliva, Sherri Harris, Terri Eddy, Joshua Warren and Sue Christian.



Knight Prep Academy teacher, Joshua Warren helps to propagate native buckwheat.

Alexander Lysak at the Forest Service Native plant Nursery in Fawnskin. Lysak provided teachers with information on current restoration projects the local rangers are working on throughout the San Bernardino National Forest. The group was given the unique opportunity to assist in the propagation of native buckwheat that will continue to grow at the nursery until it is ready to be replanted at one of their restoration sites.

The group ended the first day by attending a reception at The Northwoods Resort sponsored by the California Desert Air Working Group, which was simultaneously hosting its annual conference at the hotel.

Proceeds from the annual CDAWG conference, which is sponsored by the Mojave Desert Air Quality Management District, directly benefit MEEEC. The reception provided teachers with the opportunity to mingle with MEEEC sponsors as well as other environmental industry professionals. The evening came to a close with a relaxing dinner at The Pines Lakefront and enjoying personal time at the hotel.



Sherri Harris (left) and Sue Christian examine pH test results during a water quality lab.

The second day of EnviRetreat began with a hearty breakfast before the group departed for Pali Institute Outdoor Science School. Trained staff led the group through its WASC-accredited water quality lab. The teachers learned through hands-on exploration the many parts that come together to influence the quality of fresh water. After departing the Running Springs Outdoor School, the group took part in an easy hike to Indian Rock Camp, a nestled area in Lake Arrowhead where the local Serrano Indians camped in spring and summer. Along the trail, there is evidence of the Native Americans' time in the mountains where you can still see the grinding stone mortars they used to grind acorns.

The teachers finished their hike as the sun began setting behind the mountains. As the group made their way home, the teachers reflected on their two-days of learning and were excited to get back into their classrooms to share their new knowledge with their students and colleagues.



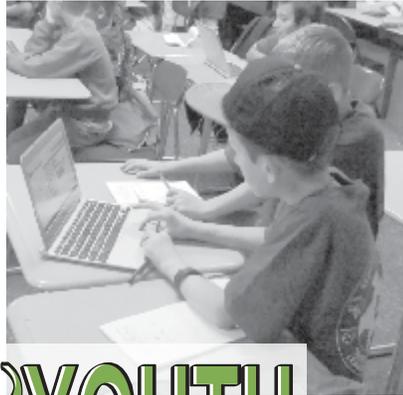
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STEM TAKES CENTER STAGE AT YELC 2015

More than 260 students and their team advisors from throughout the High Desert gathered on Saturday, October 24, 2015 for the 9th Annual Youth Environmental Leadership Conference and STEM Service-Learning event held at Granite Hills High School in Apple Valley.

Always at the forefront of environmental education, MEEC once again incorporated STEM Service-Learning into its popular annual student conference. Science, Technology, Engineering and Math (STEM) is a vital step towards providing students with the tools that help to prepare them to pursue exciting careers and opportunities of the future. Students participating in Service-Learning apply the skills and knowledge they learn in their academic coursework to identify and solve real-world community problems while accessing the expertise of community partners in addressing these issues. Participating students design and implement projects to meet community needs in energy, health and the environment.



Left: Students work on computers during the new coding workshop at YELC 2015.

YELC YOUTH Environmental Leadership Conference

MEEC was pleased to have Garner Holt of Garner Holt Productions as the event's Key Note Speaker. Holt is the creator of the world's finest and most life-like animatronic figures designed for themed attractions, museums, retail and restaurant locations. Garner kicked the event off with a presentation on unique careers such as animation designers and control engineers,

before students spent the day rotating through workshops learning about robotics, water conservation, and computer coding.

Students and advisors also enjoyed a variety of fun and informative hands-on activities during "STEMFest", an exhibitor fair that included representatives from the Mojave Desert AQMD, Burrtec, Women in Mining, and more.



Sharron Mitchell (center) from Burrtec, begins her STEMFest presentation on recycling.



Sponsors



BOEING NORTHROP GRUMMAN

TEACHERS TACKLE ADVANCED STEM SERVICE LEARNING WITH NEW CERTIFICATION PROGRAM

On November 5th and 12th, an elite group of MEEC teachers took part in the inaugural MEEC STEM Service Learning Certification Program. Funded by The Boeing Company, the two-day program provided educators of grades 3-12 who had previously attended a MEEC STEM SL training opportunity to build upon their current knowledge of STEM Service-Learning.

This first of its kind, certification program familiarized teachers with the integration of Common Core, Next Generation Science Standards and College and Career Readiness Standards through Service-Learning Projects. Teachers collaborated with one another and the facilitator to work through a set of skills which guided them towards the development of student driven, sustainable environmental STEM Service-Learning projects at

their individual schools. These skills included: integration and recognition of standards into hands-on activities, collaboration with community resources, design of student driven assessments, rubrics and evaluations, and program maintenance and sustainability.

To receive their certificates, educators will reunite with a team at YELC 2016, and utilize their new-found skills by bringing their teams to the 2017 Showcase to share their project with fellow MEEC teachers, students and mentors.

Right: Lakeysha Mattis, Cameron Elementary School, reviews STEM Service Learning practices in preparation for a group discussion during the November workshops.



HERITAGE TEACHER WENDI RODRIGUEZ TO SOAR INTO SPACE WITH NASA

After more than a year's worth of applications, projects, and classes, Heritage School's Wendi Rodriguez will be flying into space this fall.

Rodriguez – who is also a longtime MEEC teacher - is an Airborne Astronomy Ambassador for NASA's Stratospheric Observatory for Infrared Astronomy (SOFIA). In the fall, she and teammate Marie Thornsberry of Hughbanks Elementary in Rialto, will spend two nighttime flights aboard the modified Boeing 747SP jetliner, observing activities by physicists, engineers, and astronomers. A week-long training at NASA's Armstrong Flight Research Center's facility in Palmdale will precede the flights. The team will then use their experiences as subject matter for classes and speaking engagements during the next year and beyond, as they serve as SOFIA Ambassadors.



Wendi Rodriguez
(Photo courtesy of the Daily Press)

together as a team last February. The bid for nomination entailed monthly online meetings and a project, part of the Earth Partner Program. Rodriguez' project was the planning and carrying out of a Star Party for GATE children and their families at Thornberry's school, Hughbanks Elementary. Over the course of the year, the team completed the necessary assignments to become eligible for the program.

In 2007, Rodriguez was named a MEEC Teacher of Excellence for her outstanding efforts to promote environmental education and stewardship at her Phelan school and community. Last year Wendi Rodriguez was chosen California's Science Teacher of the Year. She was nominated by her students, who had won their fair share of awards at STEM programs. She thanked others for their support then, as now. "I'm really excited!" It wouldn't have happened without the continuing support of my husband Mario, my students, my school and fellow faculty members, Snowline District, and NASA." Rodriguez added that NASA will continue to support the Ambassadors' teaching efforts over the next year. "NASA is sending an online graduate credit astronomy course to all of the Ambassadors. It will help me review and increase my own knowledge to share with my students."

Rodriguez will also match findings from NASA infrared studies in astronomy with current Science Standards, to ensure the programs are up to date. As a member of Next Generation Science Standards, she instructs other educators from the District, County, and State on teaching methods for the classroom.

"SOFIA presents a unique opportunity for educators to interact with researchers making observations on board the SOFIA airborne observatory. The educators can then take what they learn back into their classrooms and communities to convey the value of scientific research as well as the wide variety of science, technology, engineering, and math career paths available to students," said Hashima Hasan, SOFIA program scientist at NASA Headquarters in Washington, in a press release.

According to NASA, "SOFIA is a highly modified Boeing 747SP jetliner fitted with a 2.5-meter (100-inch) telescope that uses a suite of seven instruments to study celestial objects at infrared wavelengths during 10-hour overnight science missions. SOFIA flies at altitudes between 39,000 and 45,000 feet (12-14 kilometers) above more than 99 percent of the water vapor in the Earth's atmosphere that blocks infrared energy from reaching (Cont'd on pg. 7)

Eleven teams of two were chosen as Ambassadors this year from an extremely large field of educators internationally. Rodriguez and Thornsberry applied

LIBERTY UTILITIES, MEEC PARTNER TO TRAIN TEACHERS ABOUT WATER CONSERVATION

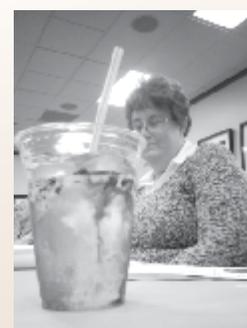
Victorville – "Beyond Reasonable Drought" was the name of a March 8th teacher workshop which taught teachers how to bring the reality of California's serious water shortage home to their students while helping them incorporate water conservation into their everyday lives. The workshop, which was attended by 18 educators from throughout the High Desert, was co-sponsored by the Mojave Environmental Education Consortium and MEEC-sponsor Liberty Utilities–Apple Valley, formerly known as Apple Valley Ranchos Water Company.



Liberty Conservation Specialist Norma Armenta shares conservation tips with educators during "Beyond Reasonable Drought" workshop.

used and when. "Our customers find this feature to be extremely helpful," she adds.

According to workshop attendee Valerie Oliva, a Special Education teacher from Desert Knolls Elementary According to workshop attendee Valerie Oliva, a Special Education teacher from Desert Knolls



Teacher Luan Shaner of Liberty Elementary School in Victorville examines her Edible Aquifer.

During the workshop, staff from Liberty–Apple Valley's Conservation Department led attendees in constructing an "Edible Aquifer", a hands-on activity which demonstrates how groundwater is stored, and the effect that above-ground activities can have on water below the surface. The student-friendly activity uses ice cream floats to simulate the different layers of an aquifer. According to MEEC Program Specialist Samantha Murray, studies show that students tend to engage and focus better with a "hands on" approach versus simple textbook lectures.

Elementary in Apple Valley, the workshop "... was a must do for teachers. The presenters gave us first-hand information on how water is monitored...and on programs and services available for educators and their students."

Liberty Utilities is a regulated water, natural gas and electric transmission and distribution utility, delivering responsive and reliable essential services to over 560,000 customers across the United States. Liberty Utilities–Apple Valley provides drinking water to about 63,000 people in the Town of Apple Valley and parts of San Bernardino County.

Teachers in attendance were also trained to read water meters and to perform home water audits in order to gauge how much water is being used and where. "People are genuinely surprised to learn how much water they are using for showering or for watering their lawn," stated Liberty's Conservation Specialist, Norma Armenta. According to Armenta, Liberty uses computerized meters that have a data logging function, which allows customers to see how much water they





FEATURE:

Meet Carla Recher

TEACHER



Carla Recher at Key Issues Institute.

Carla Recher began her teaching career as a substitute teacher in San Diego after completing her credentialing program at San Diego State University. Although she is a Southern California native, she had never heard of Lancaster as she drove from San Diego for an interview for a full-time teaching position. Carla was hired on the spot for a position at Piute Middle School- where she is still teaching today.

Carla began teaching 6th grade and eventually switched to teaching 7/8th grade math. After a few years of teaching, Carla decided to challenge her top students by turning their class into "Math Exploration" which led her students to participating in the Future City Competition. Future City is a cross-curricular program that challenges students to make connections as they apply math and science concepts to real-world issues. Carla recalls this being the beginning of her interest in alternative energy and environmental issues.

The Math Exploration class eventually became the precursor to the school's STEM program. As the program at Piute Middle School developed further, Carla was introduced to MEEC and the free STEM resources it provides High Desert educators. "Since becoming involved with MEEC in 2010, I have taken advantage of many of the different opportunities they offer to teachers," she states. Carla has received MEEC grants to help fund environmental classroom projects which have included lessons on solar energy, wind energy and energy consumption. With the help of MEEC, she is also focusing on getting the Piute School Garden up and running which will serve as an ongoing Service Learning project for her students. Last summer, Carla was selected as a recipient of a scholarship to attend The Key Issues Institute in Keystone Colorado and has been incorporating what she learned into the curriculum that she teaches.

"My main goal in teaching is to give my students experience and opportunities," Carla said, "MEEC has made it possible for me to get many of the materials for my students that provide great hands-on learning experiences."

Southern California Gas Company Sheds Light on Renewable Natural Gas with Essay Contest

Southern California Gas Company challenged High Desert students to put their pens to paper with their essay contest entitled "Putting Our Waste to Work," which focused on the many uses of renewable natural gas. On November 9th, the winners and their families gathered for an awards ceremony held at the Mojave Desert Air Quality Management District office in Victorville. Winners of the 500-words-or-less contest received special certificates, a "goodie" bag from Southern California Gas Company which included: a pencil, pen, notepad and a ruler, in addition to receiving gift cards for their insightful views on the production of renewable natural gas.



MEEC/Southern California Gas Company contest winners: Back Row L-R: Taylor Schow, Oak Hills High School, Oak Hills; Alyssa Oppenheimer, Sandia Academy, Apple Valley; Ben Sutton, Sky Mountain Charter School, Victorville; Kristine Scott, Public Affairs Manager, Southern California Gas Company

Front Row L-R: Leslie Iniguez Retamoza, Galileo Academy, Victorville; Carley Lawhead, Galileo Academy, Victorville; Ema Karrer-Duncan, Baldy Mesa Elementary, Phelan

Boeing Gives Teachers A Chance to Explore Solar Energy



Thanks to a generous grant from The Boeing Company, MEEC's "Energy From the Sun" teacher workshops equipped 100 educators from the Victor, Antelope and Morongo Valleys with the tools to enable their students to conduct scientific research utilizing solar energy and develop critical thinking skills while learning how to reach logical conclusions and solutions about our future energy usage.

The workshops were held on September 17th, October 1st and October 22nd, respectively. Each participating teacher received a kit that contained a working Solar Oven, a Solar Panel Kit, UV beads PLUS standards-based curriculum from the National Environmental Education Development Program (NEED). The NEED Project curriculum includes Teachers' Guides and Student Lab Books for hands-on activities as well as a variety of resources to teach students about renewable energy and their applications. NEED's K-12 curriculum helps schools meet the Common Core State Standards, develops student leadership, and brings the latest technology into the classroom. Each kit is valued at over \$200!!

Teachers experiment with Solar Panels during Boeing's "Energy from the Sun" teacher workshop.

EE Lab Kits Available for Check Out

MEEC has two fascinating hands-on, place-based lab kits available for High Desert Educators to check out and use in the class room and in the field!

Funded by Edwards AFB and Lockheed Martin, the “Piute Ponds Wetlands Education Kits” were developed for use at Piute Ponds, an enhanced natural marshland located on the south-west corner of Edwards Air Force Base. The site offers teachers and students a unique “place-based” learning environment that covers between 600-800 acres, depending on the season, and is a stop for thousands of egrets, heron and pelicans, to name just a few of the more than 200



Edwards AFB Environmental Manager at 661-275-2435.

Also available to educators is the Mojave River Lab Kit. Thanks to a grant from the San Manuel Band of Mission Indians, MEEC has developed this resource tool for teachers to use to with their students to learn about the Mojave River’s environment and wildlife. The kit provides tools for “place-based” learning as well as classroom preparation and is an excellent tool to use at the High Desert Interpretative Center/MWA Operations Center in Apple Valley or the Mojave Narrows Regional Park.



The Mojave River Kit includes; Binoculars, Transparent Turbidity Tube, Water Thermometer, Field Microscope w/Case, Folding Magnifier, Laminated Guide to North American Animal Tracks/Scat, Northern California Tracking Guide, Field Guide to Western Birds, Reptiles of Northern America Field Guide, Insects (Golden Guide), Quick Guide to Major Groups Freshwater Invertebrates, Laminated Guide to Aquatic Macro-Invertebrates, Creek and Pond Life Science Activity Kit, Animal Scat Keychain ID Guide, High Desert animal scat and skull replicas, PerfectCast Replica Compound, Serrano Indian Cultural history at the Narrows, water testing activity grades K-12, and “Lessons of Our California Land” (from the Indian Land Tenure Foundation). To arrange a visit to MWA’s Interpretive Center, contact the Victor Valley Museum at (760) 240-2111.

bird species that stop here as they travel on the Pacific Flyway, a common route between the north and south.

The “Piute Ponds Wetlands Education Kits” can be used for pre-lesson activities in the classroom and during field activities at the ponds.

The classroom kit contains track molds, a night sounds CD, bird talons display, skull replicas, casting kits, owl pellet kits, pond discovery kits, field press and dryers, and much more. The outdoors pond kit contains field microscopes, hand-held magnifiers, field guides to birds, reptiles, and insects, aquatic macrovertebrate life cycle cards, collection vials, water test kit, and scopes for use while visiting Piute Ponds. The kits are available for teachers to check out at the MEEC Environmental Resource library located at the Antelope Valley Air Quality Management District Office, located at 43301 Division St., Suite 106 in Lancaster, and may be checked out individually or as a pair. Teachers interested in visiting Piute Ponds can contact Misty Hailstone,



Both kits are kept in mobile carrying cases and can be checked out by High Desert educators on a first come, first served basis. For more details on the kits, contact Samantha Murray at (760) 245-1661 ext. 6717 or email: smurray@mdaqmd.ca.gov.

MEEC Hosts First Grant Writing Workshop

Twenty-five teachers attended MEEC’s first Grant Writing Workshop on September 24th. The workshop was designed to spotlight MEEC funding opportunities available to High Desert educators and how to successfully apply for them.

During the workshop, teachers were introduced to grant applications and guidelines for MEEC’s EnviroBus Bucks Transportation Grants, School Garden Grants, EE Mini Grants, YELC, and STEM Service-Learning Grants.

Workshop participants had the opportunity to review successfully completed applications and have their questions answered about application requirements and timelines.



Left: Grant Writing Workshop participants review guidelines for MEEC’s EE Mini Grants.

GRANTS\$

MEEC Launches New Website

MEEC is pleased to announce the debut of its new more user friendly website!

Designed by Whitefrog Designs, MEEC's new website continues to offer High Desert educators access to all the free environmental STEM resources they've become accustomed to, but now in a newly streamlined format. Easy to navigate drop down menus on the home page allow you to easily locate upcoming workshops, grant and scholarships opportunities, team registration information for YELC and the Solar Oven Cook-Off, helpful resource links, sponsorship information and much more!

Visit www.meeconline.com today!



VVWRA Provides Teachers with Behind the Scenes View of Wastewater

Fifteen teachers received a very special behind the scenes look at wastewater treatment during the February 3rd Victor Valley Wastewater Reclamation Authority teacher workshop. General Manager Logan Olds led the group on a tour of the facility which showcased the science, engineering and state-of-the-art technology the facility uses during its daily operations. Teachers learned that wastewater includes water from your sink, showers, dishwashers and washing machines—basically anything that goes down the sewer pipe. That wastewater comes from homes and businesses in Victorville, Apple Valley, Hesperia and unincorporated areas of San



Teachers learn about the ultraviolet purification process that wastewater undergoes as one of the final steps in the purification process.

Bernardino County including Spring Valley Lake.

VVWRA takes that water and sludge and transforms it. Teachers toured the extensive cleaning and purification process from the intake pipe to finished product which is returned to the Mojave River. The solids are put in large anaerobic digesters, where the resulting methane gas is used to help power the plant. With the help of cutting edge technology, VVWRA is currently producing 93% of its power from biogas using the new Omnivore system and is working toward having 100% of its power come from this source.



The group begins their tour by climbing to the top of VVWRA's new Omnivore digester.

Fantabulous Feedback



Letters from MEEC's "Fans"

The YELC sessions on our environment were second to none. The experience my future environmental leaders received was planned out and done with experts in the field from robotics, recycling, solar and water to name a few. One student said they were so glad they came and others were asking when the next one was!"

Paul Longshore
Galileo Academy, Victorville

MEEC teacher workshops are always interesting and different. I've attended quite a few and there is always some kind of 'ahh-haa' moment, whether for a teaching strategy or curriculum. After a grant writing workshop I was lucky enough to receive an EnviroBus Bucks Grant this year and my students are anxiously awaiting our trip."

Suzan Marshall
Vanguard Prep, Apple Valley

It is through MEEC's dedication that has enabled our students to learn and lead others on a journey that has taken them to playing an active role in their school's appearance to confronting larger environmental issues. From the multitude of resources and workshops MEEC has offered teachers, such as YELC and the solar oven cook-offs each year, our students have grown increasingly aware of the environment that surrounds them and they are now taking part in designing and constructing an interactive garden, leading their own workshops on solar cooking, and developing plans for weekly recycling and trash clean-up crews that are completely student-run. Thank you MEEC, your contributions are changing the way teachers and students think for the betterment of their communities and the environment around them."

John Kell
Daisy Gibson School, Palmdale

I always enjoy participating in MEEC's workshops. The presenters are very knowledgeable and I always bring back lessons to do with my students. My students are always engaged with the lessons I bring back to class."

LaKeysha Mattis
Cameron Elementary, Barstow

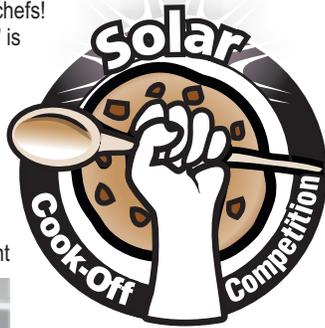
Visit www.meeconline.com



Sign Up for the 4th Annual Solar Cook-Off!

Calling all budding engineers and aspiring chefs! The 4th Annual "Solar Cook-Off Challenge" is coming and you don't want to miss out on this sizzling hot event!

Through MEEC's ongoing partnership with the San Bernardino County's Office of the First District, we will once again be hosting the event at the Victor Valley Museum located in Apple Valley on May 14, 2016. Lunch, snacks and event



2015 Solar Cook-Off Participants

T-Shirts will be provided for all participants in the event.

This event provides students in grades 4-12 with the perfect opportunity to utilize their STEM and critical thinking skills working

as a team to design and build a solar cooker and winning recipe.

During the "Solar Oven Cook-Off Challenge," teams will demonstrate the performance of their solar cookers by creating an original dish(es) of food for the competition. Three awards will be given in each grade division for the BEST OVEN DESIGN and TOP RECIPES. Grade Divisions are: 4-6; 7-9; and 10-12.

A total of \$2,475 in Prizes will be awarded!!!!

Registration forms are available at our website www.meeconline.com. The deadline to register is April 29, 2016. For more information on the event, please contact event coordinator Christie Robinson at (760) 245-1661 ext. 6101 or by email at christier@mdaqmd.ca.gov.

(Cont'd from pg. 3) **Heritage Teacher Wendy Rodriguez**

ground-based observatories." SOFIA is a joint project of NASA and the German Aerospace Center (DLR). NASA's Ames Research Center in Moffett Field, California, manages the SOFIA program. The aircraft is based at NASA's Armstrong Flight Research Center's facility in Palmdale, California.

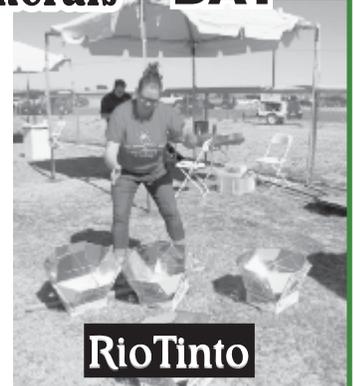
Students Learn About "Green" Careers During Salute to Youth



MEEC took part in Antelope Valley Union High School District's 24th annual "Salute to Youth" Career Connection. The October 13th event provided students with the opportunity to network with and explore various career opportunities with industry and business professionals. MEEC was on hand to share information with those in attendance regarding current, in-demand and growing green career opportunities.

MEEC Takes Part in Family Day at Rio Tinto Minerals

MEEC sponsor Rio Tinto Minerals invited MEEC to participate in its 2015 Family Day at Boron Park in the city of Boron, where MEEC Program Specialist Samantha Murray (right) demonstrated solar cooking throughout the day. More than 1,000 employees, families, retirees and special guests turned out for a day of games and activities during the October 3rd event.



C O O R D I N A T O R ' S CORNER

Hello to Spring 2016

The "Maker Movement," a technological and creative learning revolution, is underway across the country and is shaping into something that could provide endless opportunities for the world of STEM education! As new tools and technology develop (such as 3D printers and robotics) and become easier for schools to gain access to, the momentum behind the Maker Movement continues to gather force. But what exactly is the "Maker Movement?"

The "Maker Movement" is a community of hobbyists, tinkerers, engineers, and artists that celebrates creativity and innovation through the design and construction of physical objects. "Maker" activities may come across as playful, slightly wacky, explosions of inventiveness, but when tied into your current classroom lessons, research shows that these types of activities can be used to deepen students understanding and retention of key curriculum concepts.



With Next Generation Science Standards bringing engineering practices to the K-12 classroom, the idea of "making" goes hand-in-hand with NGSS's emphasis on problem solving, making connections and other cross cutting concepts. The Maker Movement combined with NGSS's three-dimensional approach to learning, offers educators with innovative opportunities to transform their current lessons into scientific investigations and project based learning experiences that can steer their students towards engaging, real world learning. As an added bonus, "making" also helps emphasize critical thinking, creativity and crucial 21st Century Skills. What a great way to bring environmental and STEM education into the classroom as we prepare our students for "making" their futures brighter!

S. Murray

Samantha Murray
MEEC Program Specialist





Also visit www.creec.org




Jesse Cain 3M Oak Hills	Chuck McCall Granite Hills High School	Dave Rib Mitsubishi Cement
Martin Maxwell Boeing	Cheryl Vermette Helendale CSD	Violette Roberts Mojave Desert Air Quality Management District
Desirea Haggard CalPortland Company	James Stockdale Knight High School	Yvonne Campos SOAR High School
Michelle Lawhead George Visual & Performing Arts Magnet School	Tony Penna Liberty Utilities	

**THANK YOU TO OUR
2015-2016 MEEC Sponsoring Partners**

DIAMOND

- 3M Oak Hills
- Boeing
- High Desert Power Project
- Lockheed Martin
- Mojave Desert Air Quality Management District
- Mojave Water Agency

MULTI-PLATINUM

- Mitsubishi Cement

PLATINUM

- Cadiz
- CalPortland Company
- County of San Bernardino
- Daily Press
- Liberty Utilities
- Northrop Grumman
- NRG Energy
- Nursery Products
- Southern California Edison
- Victor Valley Wastewater Reclamation Authority
- Vulcan Materials
- Women in Mining

GOLD

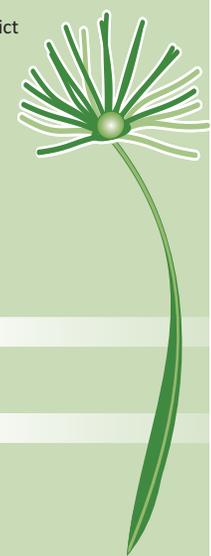
- Air and Waste Management Association: Mojave Desert Chapter
- Advance Disposal
- Antelope Valley Air Quality Management District
- CEMEX
- City of Twentynine Palms
- City of Victorville
- Elementis Specialties
- First Solar
- Sanitation Districts of Los Angeles County
- Southern California Gas Company
- Omya, Inc.
- Rio Tinto Materials
- TetraTech
- Victor Valley Transit Authority

SILVER

- Edible Arrangements
- Town of Apple Valley

BRONZE

- City of Hesperia
- DS Energy Solutions
- Helendale CSD
- Specialty Minerals
- Verdant Environmental



**Mojave Water Agency Encourages Everyone to
“Live Like a Desert Native”** *Save Water!*

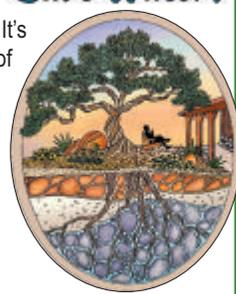
We are in a historic time dealing with water use. It's going to require all of us to adapt to new ways of living...and to incorporate lasting life-style changes if we're going to live sustainably and comfortably into the future.

We all need to be aware of one basic fact: We live in the desert.

Our desert supports a higher diversity of plants and animals than most other places on earth. In spite of the stressful extremes of weather and climate, a huge variety of native desert creatures have lived here successfully for eons.

These plants and animals don't just survive here, they thrive. How have they done it? What's their secret? How do we achieve the goal of living comfortably and successfully in the desert? The Mojave Water Agency's new campaign "Live Like a Desert Native" encourages local residents to take the water saving examples we see in our desert adaptive plants and apply them to yards, homes and schools.

For more information on how to "Live Like a Desert Native," visit www.hdaeac.org.



*Live Like a
Desert Native*